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SYMPOSIUM UPON WHAT IS MOST NEEDED IN THE TEACHING OF ELEMENTARY GEOGRAPHY

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THE purpose of this Symposium is to present a collection of modern ideas regarding needed improvements in elementary geography; from this, it is hoped, will come more effective geography teaching among the readers and friends of the JOURNAL OF GEOGRAPHY.

In the presence of much in the educational field that is incapable of clear interpretation or practical application, it was considered wise to select a definite idea, closely related to elementary school work and invite the contributors to focus their attention upon it. These definite answers to "What is most needed in the Teaching of Elementary School Geography?" will suggest means of improvement. That differences in opinion occur among the contributors is expected when one considers the various positions, ideas and local conditions which are represented. These differences strengthen rather than weaken this discussion, for from the many ideas, one may select and adapt those which best apply to his own local problem.

Each participant in this Symposium has solved some problem, inagurated some useful movement, or introduced a concrete method into modern elementary geography. The text-book makers, the training schools, the teachers and supervisors are all well represented. The opinions here expressed should be compared with the broad generalizations of those who fail to appreciate the spirit of modern progress in elementary geography.

To make an analytical summary of these ideas and state the results in percentages would give a mathematical expression of relative values in modern elementary geography. The writer believes more constructive benefits will result by welding together the more important expressions which are the most closely related to the improvement of this subject. These elements are as follows:

1. Readjustment of subject-matter to child life and needs.
2. Home knowledge, an essential basis of elementary geography.
3. Maps and the practical use of the map.

4. Illustrative materials.
5. The preparation of the teacher.

1. Readjustment of Subject-matter to Child Life and Needs.

The modern child leaves school at an early age to enter the activities of life, and his school ought to give him some preparation for the world's work into which he goes. Elementary geography is no longer a brief compendium of broad generalizations of earth relations, but rather the field for the intimate acquaintance of the child with the activities of his home and country. Elementary geography of the present time suffers from a complex accumulation of modern approved ideas and much old material which holds its position by the inertia of tradition. A rational reorganization of the entire subject-matter is preferred to the elimination of wornout topics or the selection of definite parts of the old subject-matter. The geography of a generation ago was a mosaic of materials gathered from the other sciences and joined together by none of the principles of modern geography. This is well illustrated by the following definition, common less than a generation ago, which is remarkable for its broad scope and looseness; "Geography is a description of the surface of the earth and ias countries and its inhabitants." At present elementary geography is considered to be the study of the earth as the home of man, in which what the earth produces for his needs and comforts occupies a large place. Under this idea elementary geography assumes a definite aspect in that the activities of life as related to the environment form the real basis of instruction. Proceeding upon this, the future readjustments in subject-matter will comprise its organization about the many activities of man, which involve present problems resulting from the relationship between man's needs and his surroundings. Organization of subject-matter in this manner has already been ventured by some of the contributors to this Symposium and the results widely approved and yet the progress in this line is not such that we can flatter ourselves much.

2. Home Knowledge, the Essential Basis of Elementary Geography.

In the practical readjustment of subject-matter home knowledge must receive more emphasis than a mere incidental story of the locality. Teachers to a surprising extent are not well informed as to the geographic features and influences which are vital in the growth of their own locality. If the home, not the earth, is the child's world, then how important it is that the knowledge of unseen lands be based upon the concrete material about them. Ritter's idea that home knowledge forms the first step and real foundation in elementary geography is well established in the German schools where it has an importance equal to the other subjects. If home geography is to be effective in giving useful geographical concepts, it must be such a definite and essential element of the course of study that it

is in constant use by the child. That home geography is most useful which is obtained at first hand in wisely conducted out of door lessons. These would be far more common if teachers were more intimately acquainted with their own locality and fully appreciated its wealth of concrete material. The general topics which will be elaborated and emphasized according to the needs of the various localities are as follows; surface features, climatic elements, products, industries, commercial activities and political institutions. If schools are to furnish training in modern civic and social activities, then it is important that the home knowledge be so organized that it can be utilized as a basis to explain and lead to the full appreciation of modern problems of life.

A working collection of local products in the various stages of preparation, sets of local lantern slides, simple maps indicating soils, wood lots, drainage lines, highways, local boundaries and political subdivisions are as necessary as the local library. Cooperation in a geographical club of its active members brings about a community interest sometimes of enough impetus to collect practical exhibits for exchange, to plan local excursions, issue local maps and phamplets and to aid in the selection of the best equipment of globes, maps, charts, texts etc., for the elementary schools. Is it not possible to have in your community within the next year such a local club organized? Report your progress to the JOURNAL OF GEOGRAPHY and the experiences will be of value to other localities. School officials are very responsive to any movements which involve the whole interest of the community and their aid should be enlisted to provide the elementary schools more generously with geographical equipment.

3. Maps and the Practical Use of the Map.

In English study the dictionary is a most essential tool; in geography the atlas is equally important. The results of the neglect of the latter are far reaching, for pupils lacking training in its actual use seldom develop geographical skill and their ignorance of even the common geographical places has its effect upon all studies. It is not the lack of drill in locating places, for the poorest teaching abounds in memory work, but rather the failure to train pupils to use the atlas and map in all subjects of the elementary schools.

The actual use of the map must receive more emphasis. Map exercises which detain the mind of the pupil upon the various relationships and thereby fix the concepts should be more widely utilized. The blank maps for such exercises may be printed from plates owned by the city, the county or the local geographical club. In one city such maps cost one-tenth of a cent each and thousands are used by the pupils.

Pupils should acquire the knack of rapidly sketching memory outline maps which illustrate certain definite features. The teacher should be

skilled in the diagramatic representation of geographical ideas in chalk modeling, blackboard sketching, simple block diagrams and rapid sketch maps.

Large blank wall maps are useful in the class work to clarify the discussions of resources, relief, drainage and any data that may be readily plotted thereon. The interpretation of geographic relations from such wall maps yields results that few teachers appreciate.*

Besides the regular school maps, there are special ones relating to rainfall, temperature, soils, forests, vegetation, transportation, etc., which assist in the understanding of these essentials. All the maps of a building should be listed and stored in a case or a convenient closet. Unmounted maps are best backed with muslin and mounted upon sticks. Several diagrams, charts or maps concerning closely related topics or countries can be mounted upon a single heavy rod. Large diagrams are easily constructed upon prepared cloth with a broad drawing pen and a stencil printing outfit. A collection of local maps, diagrams and charts is of fundamental use in the home geography.

The average map of the common school is often a confusing blur of cities and small towns, perplexing to both the teacher and the pupils, Maps are often selected for cheapness, number of places depicted, contrasty coloring or a fine mounting; seldom, if ever, does the teacher complain of their inadequacy, because of her lack of knowledge of a good map and the fact that even poor maps are scarce and hard to obtain.

The physical maps are frequently printed over all the political data with the physical features highly accented by a color scheme. Mistakes occur entirely too frequently; territories are changed to states by pasting in the printed names. In a recently published map of the United States the entire coast was lined with the names of myrids of small bays, capes, inlets, outlets and sounds, all of which are useless and bewildering detail for elementary schools. Elementary geography in this country needs maps that are simple and clear in their delineated features and adapted to the capacity of the pupils. The American Geographical Society has given much aid to the geography teacher in its traveling exhibit of foreign maps. There remains a similar service to be performed in the compilation of the American published maps accompanied by a careful statement of the merits, defects, price, publisher, mountings, editions and definite recommendations concerning their use. Such a service by the American Geographical Society would elevate the grade of map published and thereby directly aid the instruction in elementary geography.

4. Illustrative Materials.

The term illustrative materials in geography is so inclusive that it often appears vague and it is quite generally misunderstood. The vague-

*The Journal of Geography. May, 1911, page 248.

ness arises from its very abundance but the actual use of well chosen material yields results that satisfy the critic who has failed to understand its value. Illustrative materials include only those necessary to acquaint a child with things of geography in addition to their name. Good instruction in geography demands well chosen illustrations and working materials drawn from various sources, i. e., globes, maps, pictures, lantern slides, stereographs, models, charts, raw and manufactured materials of the home and foreign lands, diagrams, charts and simple weather instruments. Educational authorities have long favored such illustrations. The actual progress in providing schools with illustrative material has been exceedingly slow as is shown by the meagreness of it in even the best and most modern elementary schools.

If the pictures are postal cards, lantern slides, stereographs, magazine clippings, kodak pictures or advertisements let them be carefully classified by countries. Such a collection large or small is more practical if it is carefully filed and indexed by countries and subjects.

The collection of raw and manufactured products must not be "freakish" but rather an organized display of significant things which are closely related to man's life and activity. The technical or scientific aspect is not the end of such materials but it is an attempt to render concrete to the child's mind the materials closely related to the existence of man. Each collection for elementary work should be small and a unit in itself. If for example a cotton display is to be organized it should consist of the raw and manufactured material and by-products, pictures, reading matter, maps of producing and manufacturing areas and the most important of all a carefully planned outline for the use of the material with the geography class. Many manufacturers have generously prepared school exhibits but generally the materials require readjustment before actual service with pupils.

5. The Preparation of the Teacher.

The status of geography in the elementary school is closely related to the teachers, few of whom possess the amount of geographical knowledge which is necessary for success. The specialist is not advocated and neither is a deficiency of knowledge excusable. Intimate knowledge of elementary geography should be possessed by each teacher and all methods should be considered as an aid in presentation. The evolution of the average geography teacher is about as follows:—four years of geography in the elementary schools, possibly some physical geography in the high school (about one student in twenty-five) and one term of required study in the normal school where frequently half of the time is devoted to method. Statistics show that very few elementary teachers are graduates of a normal school and thus the average training of geography teachers was gained in the grades with possibly some high school physical geog-

raphy. The means of improvement is with the local school officials and the state department of education who should allot more time to this subject and exact a higher standard of preparation from the teacher. In other words, what is most needed in the improvement of elementary geography is to improve the teachers, both present and prospective. This may be accomplished by adjustments along the following lines:

(1). Increased time for geography in the elementary school and a more rigorous emphasis of both the rational elements and the facts of geography. A better product from the elementary school would provide a more secure foundation for the teacher.

(2). The present high school physical geography should be modified so that equal time is given to physical, political and commercial aspects of geography. It would be most desirable if sometime during the high school course there was required a careful review of the grammar school geography.

(3). The Normal School and the Teachers' College should demand of each of its graduates who teach elementary geography an intimate and practical knowledge of it from the modern viewpoint. If the training of the prospective teacher involves complicated problems in advanced physiography or neglects the essentials to be taught in the elementary school, then that institution fails to give the teacher an effective preparation. If the teacher's knowledge of geography has been neglected or if it is sought to replace it by abstract methods or generalizations of pedagogic principles, then ineffective teachers result. "There is no method that can replace knowledge." Normal Schools have more of the elements of physical geography at present in their course than general geography* and from an examination of the geography courses actually required of the graduates of ten Normal Schools, it appears to be physiography of a doubtful use to elementary teachers. The adjustment of the required Normal School course in geography so that it provides an adequate comprehension of the principles of modern geography which are best adapted to the elementary school would be an effective means of improvement.

By JACQUES W. REDWAY, F. R. G. S.,
Mt. Vernon, N. Y.

One thing needed in the study of geography in the elementary schools is a better arrangement of the course. In most states the course ends in the seventh year, which is bad; in New York the systematic course ends with the sixth year, which is the acme of stupidity. An elementary course in the fifth and sixth years, consisting mainly of the instrumental knowledge of the subject, to be followed in the seventh and eighth years by a course in

*Journal of Geography. November, 1911, p. 74.

which the relation of geography to history and industrial pursuits is shown, would yield better results. If ever there is a time when pupils need the intelligent study of geography, it is during the last year of the grammar school course—and usually they do not get it at that time.

Next to literature, geography and history are the studies that chiefly give the pupil the broad foundation necessary for the best citizenship. Unfortunately they are the studies which are the most superficially taught. This is not the fault of the grade treacher; frequently it is that of the superintendent; in New York it is a crime of the State Education Department.

In the German schools the pupil has about four years more of geography study than the American boy gets. As a result he knows more about the geography of the United States than most American boys. In American schools much of the time given to the subject is wasted because the study is not taken at the right time.

By RICHARD ELWOOD DODGE,
Teachers College, Columbia University, N. Y.

We need especially courses of study planned for each locality, and not for large areas, in which the essentials are indicated and some consideration is given to relative values. Such courses can only be made out when the authorities recognize the purpose of school geography, and plan accordingly. The ability to work with geographic facts and materials is of greater value than information about facts. Hence children should be taught how to use atlases, maps, books of reference and encyclopedias. They should have training in the locating of important places and features, as far as possible without memorizing.

Teachers should strive for quality of work and for ability, rather than to cover all the possible field without discrimination. They should use text and wall maps freely as bases of study, and they should be supplied with good wall maps, as necessary parts of any decent school equipment. *Teachers must learn to use the text, rather than have the text boss them, and they should give more attention to local conditions.* If they realize that geography is real and personal and that it has its significance in our daily lives, their work will be less unhuman and more worth while to them and the children.

By CHARLES F. KING,
Master of Dearborn School, Boston, Mass.

What is most needed in Elementary Geography?

1. A good teacher, one interested and well-prepared.

2. Good methods of teaching; an understanding of child nature; willingness to omit non-essentials and emphasize important points.

3. Interest secured by appealing to the eye as well as to the memory; to the imagination as well as to the understanding.

4. Therefore begin with field lessons not far from the school-house to help the pupils to understand the terms used in geography.

5. Free use of all kinds of illustrations, globes, maps, diagrams, pictures, etc., the stereopticon, stereoscope, reflector, solar camera, etc.

6. Omission of general details except in reference to the town, city, and state in which the children reside; and the people, customs, and industries of the same.

7. A special study of certain important subjects, such as the great staples of the world, noted cities, great rivers, mountains, etc.

8. Considerable time for manufacturing, commerce, and transportation, as these subjects are vital and especially interesting to older pupils.

9. Teach the locality of large and noted places, and those connected with the district to which the children belong.

10. Special attention to physical and mathematical geography during the last year of the study of geography, when the children can better understand these subjects.

11. Reading in connection with the study of geography should be constantly encouraged.

12. The use of text-books easily comprehended by the children.

13. Ample time for the consideration of the subject.

By METHA L. WULF,
Industrial School, Cleveland, Ohio

The teacher must have a vital interest in the subject, a mastery of the lesson and careful preparation of it. Enthusiasm should be evidenced by the child through an understanding of the matter given.

The home cities; its topography, climate, drainage, transportation facilities and industries are the best means of approach. Using local geography as a basis, the study of the immediate region or state leads to that of the United States and the continent. Since states in the section are united by similarity of surface, climate and drainage the pupil is enabled to form his own conclusion in regard to their industrial and commercial life. This gives him an understanding of geographic facts of practical value.

The study of foreign countries is best presented in the order of their importance in relation to the United States. Each country should not receive equal emphasis upon the same things, but the characteristic features of each country should be given the greater attention.

Geography should be made concrete rather than abstract. Following are some of the means which should be more used than they are at present:

Pictures can be obtained from magazines, railroad folders, booklets from the U. S. Department of Agriculture and postal cards. Stereographs and lantern slides are most helpful.

Materials collected from the manufacturing establishments, commission houses and warehouses by the teacher and pupils are of vital importance if systematically arranged.

An organization of local teachers would be a great benefit. Definite subjects should be studied under the direction of a capable person, outlines and exhibits prepared, which could be taken into the schoolroom and directly used.

Map study is essential hence there should be constant use of it. The small outline map upon which the pupil can illustrate topography, political divisions or the production of a region facilitates this work. A salt and flour map made by the child is an aid in studying the relief of the region. The blackboard-cloth map, having only the political divisions and the principal rivers indicated, is very helpful in review work.

Trips, carefully planned, to neighboring factories, markets, buildings of interest, museums and field trips to the surrounding country are necessary. They allow him to observe closely and make his own deductions, thus providing a valuable basis for future study of the text.

In all then, what is most needed in the teaching of elementary geography is to so guide the child that he may understand the problems of his surrounding region and more readily appreciate the geographical activity of modern life.

By LEWIS M. DOUGAN,
St. Louis, Mo.

An acquaintance with the real earth and what real men are doing with it seems to me the child's big general need in geography. To acquire new ideas, he needs outdoor excursions for the study of local land forms, industries, and institutions. Indoors, he needs a more liberal use of illustrative material to supplement the text and a more careful training in the interpretation and use of maps. To express new ideas gained, various types of mind, differing greatly in ability, will need a variety of means of expression—not only oral and written words, but gestures, diagrams, sketches, several kinds of maps, and constructions. To teach so much in so little time as is allotted, the teacher herself needs skill with word and chalk, together with discrimination in the selection of the material to be used and the type subjects best suited to develop clear notions and build them into a logical system.

By NELLIE B. ALLEN,
State Normal School, Fitchburg, Mass.

To teach is to inform, to guide, to inspire. To fulfill these duties the teachers needs both information and inspiration,—information concerning the great industries which underlie the life of the world, and inspiration which comes from a knowledge of and contact with those industries and that life. If teachers would make their teaching alive, let them study and teach that on which life depends, viz, industry in its varied forms.

The industrial world is based on the physical world, and is itself the foundation of the political world. In the study of any country the teacher should select its characteristic industries. These depend largely on certain physical causes such as position, climate, and soil, and in their growth and development are closely connected with the surface, drainage and commercial and manufacturing cities, etc. By making the industry the center of thought and by weaving around it the physical causes on which it depends, the whole subject becomes alive and full of interest. It is only by such direct contact with life that we can hope to make geography something more than the dull repetition of memorized facts concerning wiggly lines, black dots, and pink, brown or green areas.

To teach industrial geography the teacher needs her tools. These should consist of collections of samples and illustrated pamphlets, both of which manufacturers are usually glad to furnish; information such as the different departments of our government freely distribute and books which deal with the industries and daily life of peoples.

The educational world will sometime awaken to the fact that teachers cannot teach without material which will give correct impressions and vivid mental pictures of foreign lands. In every school building of the future we shall find a working library of books, raw materials and finished products, and pictures. Until that happy day arrives, however, every teacher can supply many of these tools from the wealth of material freely given for educational purposes by the industrial world.

By F. M. McMURRY,
Teachers College, Columbia University, N. Y.

What geography most needs at present, is a reorganization of the subject-matter around problems that are plainly so related to life that both teacher and pupil realize that fact. So long as geography is organized as it has been organized—in a purely logical way—there is no sufficient basis for selecting from among the many facts in the field. Interest is then lacking, time is wasted, and there is loss in other ways. Any continent or any country should have its subject-matter organized around present

human problems, and only such an amount of subject-matter should be attempted in our text-books as is necessary to answer these definitely defined questions. At present, as a rule, we collect facts somewhat indiscriminately, with the thought that they may be of use in meeting with issues of life. According to this plan, the issues of life are the last things to receive consideration. The change consists in considering them first; and, having discovered just what they are, selecting and arranging our facts accordingly.

By AMOS FARNHAM,
State Normal and Training School, Oswego, N. Y.

What is most needed in Elementary Geography?

TEACHERS who have had a vision of the *spirit of geography;* teachers who appreciate the relation between Man as a consumer and Earth as a producer; teachers who are awake to the truth of Ritter's words, "Wherever our home is, there lie all the materials which we need for the study of the entire globe;" teachers who realize that Geography is outside the textbook, and that the function of the textbook with its text, maps, and pictures is simply to interpret the science and to enable learners to visualize geographic forms, geographic regions with their peculiar flora and fauna, great industries with their industrial centers and means of communication and transportation; teachers who are conscious of the unpardonable sin of teaching in the abstract when a wealth of material is within their grasp; hills, valleys, meadows, streams, soils, useful plants and animals, a day and night, change of seasons, the atmosphere as a distributer of heat and moisture, man with his needs and consequent activities, his adaptation to his environment and his increasing mastery of his environment; teachers who have learned the difference between *cram* and assimilation, and know that growth requires time; teachers who lead their pupils to discover the relations of geography to human history and to natural history, and to make application of geographic facts and principles in the experiences of daily life.

By ZONIA BABER,
School of Education, University of Chicago

TRAINED TEACHERS.

More geography, taught in the elementary and high schools, would give the prospective teachers an opportunity for acquiring a geographic education. Geography should continue through the elementary grades and for two or three years in the high school.

Possibly during some period of this time, one or two recitations per week would suffice to keep the subject in consciousness and prevent the usual situation,—a child of twelve years of age stowing away, with a sense of completion, his knowledge with his text-book.

Before any great improvement can be expected, the high school teachers, as well as the elementary, must have more knowledge of geography. Training in right geographic habits can not be secured by the teacher of geography without the co-operation of the teachers of the other subjects—history, languages and other sciences.

TEXT-BOOKS.

A text is needed that is better adapted to the pupils, with more difference in the treatment and selection of the subject-matter for the primary and grammar grades.

Every child should possess a good atlas and be taught how to read it.

FIELD WORK AND MUSEUMS.

To teach pupils to organize first hand material, and to avoid counterfeit knowledge, field work and museum material are necessities.

By MARK JEFFERSON,
State Normal College, Ypsilanti, Mich.

Why, of course a teacher must know something about teaching and like children: that for any subject. For geography work especially the first essential is that she have a hearty interest in geography and that is so important that it is likely to cover and include much of what follows. After this comes knowledge, intimate personal knowledge of some bit, at least, of the real, out-of-door world. I would like this to include some meadow, some woods, some hillside, a brook or equivalent; and to have lasted through flood and drought and include animals and plants, also a village, town or city. This knowledge and intimacy cannot be too close. Trolleys will usually facilitate it, even in a large city, even if the children can never be taken. With this and real knowledge, intimate knowledge of one or two accounts of foreign lands will make possible admirable work. For her town she ought to know what makes it live, and in what direction it is growing and why; I include that in intimacy.

By ISAAC O. WINSLOW,
Assistant Superintendent of Schools, Providence, R. I.

1. *More simplicity.* Teachers very generally assume too much maturity in children and employ subject matter and methods of presentation that are beyond their range of easy comprehension.

2. *More attention to the natural interests of children.* Less importance should be attached to physiography and topography in connection with the various countries of the world, less time should be spent in the memorizing of mere facts that arouse no interest, and more attention should

be given to the various peoples of the world and their activities.

3. *More definiteness.* The subject-matter should be well analyzed and set forth under distinct topics and pupils should be taught to give definite ideas or answers to definite questions upon such topics, instead of running through a mass of matter in a general way without retaining anything in particular.

4. *Better text-books.* To render these ideals practicable most of the text-books in common use should be radically revised or discarded. A few special and expert teachers can withstand the disadvantages of the text-books, but for the great majority the books determine the work and should therefore be prepared for actual schoolroom use.

By ANNA BUCKBEE,
State Normal School, California, Pa.

In my judgment, teachers should first have a good knowledge of geography themselves and a living interest in it. They need plenty of fresh material, both subject-matter proper, and illustrative material. Thirdly, they need skill in presenting the subject so as to meet the needs of any given class of children. Finally, teachers should be given a great deal of freedom as to the method of their teaching, and they should have the courage to omit much of the detail which now loads down many of our text-books.

The books written for the children should constantly show the relation between structure and life, and the word pictures should be many and clear.

By DOUGLAS C. RIDGLEY,
Illinois State Normal University, Normal, Ill.

1. Pupils need to be taught to interpret the language of the text-book and supplementary readers in terms of every-day life as they see it all about them; that is, distant places must be related to the home locality.

2. Place geography must receive definite, systematic and persistent treatment so that the name, location and direction from home shall be known with reference to continents, oceans, large islands, chief countries, cities, mountains, rivers and other important geographical places, much as a pupil knows his multiplication table—without stopping to think it out or to find it in a book. Place geography should have its origin largely in the industrial topics of the course, and fastened by rapid and frequent drills.

3. Pupils should be taught to construct and interpret maps containing interesting and instructive matter. This is done best by a wise use of accurate outline maps. The making of maps showing rainfall, vegetation,

population, transportation, products, etc., gives definiteness to the mental concept. The oral, and then the written, interpretation of the map fixes the geographical facts in the mind of the pupil more firmly than any amount of reading.

4. Fullness and concreteness of knowledge is to be obtained by a proper mastery of text-book, rapid but careful reading of supplementary readers, and frequent study of well selected collections of museum materials, pictures, stereographs and lantern slides.

5. Pupils need to relate their knowledge of class-room geography definitely to the daily events of the year, and thus to see the wide usefulness of the study.

By MARION WELLER,
State Normal School, De Kalb, Ill.

There is needed in the teaching of elementary geography of:—

First:—an organization of the subject-matter about definite unifying ideas. These ideas should be developed in the intensive study of such topics as involve real life problems, at first in the home country and later in foreign lands. Teachers need to get away from the generally formal use of a text-book, and rather adapt the text-book material to such an organization of subject matter as is suggested above.

Second:—the acquisition of a great number of facts, and a knowledge of what names stand for and where places are. There is a tendency to lose sight of the utility side of the subject in the reaction against pure place geography. Places and facts should not however be unrelated. The causal relation, both the human and the physical, should control their use and organization. Teachers must be constantly asking the question, "Why."

Third:—teachers with a wider scholarship along lines which contribute to the understanding of the laws and principles fundamental to the various phases of geography.

By CORDELIA O'NEIL,
Principal of the Marion School, Cleveland, Ohio

The element most needed in the teaching of elementary geography is a good teacher.—One who is alive to her subject and to her work.

The enthusiastic teacher will not try to convey to her pupils a knowledge of geography by simply using the text-book. She will have a globe, maps and geographical specimens.

Her globe, if not furnished by school authorities, will be secured by herself if she can afford only a small one.

Her maps might have to be secured from some railroad agency, though

I think most, if not all, school authorities now see the need of them and meet it.

Geographical specimens if not furnished should be collected by the class. It is not an uncommon occurrence for a sixth grade class, whose assignment of geography covers practically the geography of the world, to have a specimen of everything mentioned. But over and above all, the teacher is the main necessity. She must have had the desire and the opportunity of seeing most of the phenomena and places with which she deals; either in reality or from good pictures.

Such a teacher could not fail to arouse in her pupils an interest that is valuable.

By W. J. SUTHERLAND,
President State Normal School, Platteville, Wis.

I. PREPARATION OF THE TEACHER.

What is most needed in teaching Elementary Geography is a comprehensive knowledge of the subject by those who teach. Such preparation is beyond reasonable expectation so far as the mass of teachers is concerned. Therefore needed improvement from the teacher's point of view depends upon.

(1) An adequate appreciation of the *meaning* of geography, which seems possible even without a comprehensive knowledge.

(2) A reasonable standard for the evaluation of geographical materials to secure proper placing of emphasis.

(3) A better method of presentation. The old formal memoriter method of study must give way to a method that is concrete, and which requires pupils to perform exercises and solve problems.

(4) A reasonable standard for measuring the results of teaching in the Elementary School.

II. EQUIPMENT.

(1) Schools must be better equipped with: maps, charts, models and simple apparatus.

(2) Carefully selected lists of supplementary and reference books, including atlases upon which to base exercises.

(3) Illustrative materials: Stereopticon slides, stereographs, mounted pictures, and museum materials, all catalogued for quick use.

III. BETTER METHOD IN TEACHING.

(1) Geography teaching in Elementary Schools is too formal. Every effort should be made to vitalize geographical materials.

(2) Subjects of study should be related to and have a bearing upon twentieth century life. As far as possible pupils should be made to see and feel these relationships.

(3) The essence of geography resides in relationships. Throughout the course, physiographic influence upon life, industrial activities and history should be emphasized.

(4) The needs of civilized people, and the industries through which they are satisfied, are the starting points of geographical study. But industries are processes through which the earth and earth-products are adjusted to man's needs. The essential phases of geography, therefore, are the physiographic and the social.

(5) Pupils should memorize very few text statements. They should perform exercises and solve problems that necessitate the acquirement of useful facts. Drill should be given upon condensed summaries and significant principles.

(6) Under the present status of geography teaching, too many topics are recognized. Fewer subject-matter units should be selected. These should receive a more thorough treatment. Better organization will result.

(7) Expression is employed too little in teaching geography. Drawing, molding and graphing should be employed more.

(8) The value of maps, models, pictures and excursions is at present underestimated in the study of geography.

(9) Home geography is of first importance. The excursion is the most effective means of studying local geography.

(10) The function of geography is that of adjusting pupils to their physiographic, economic and social environments.

Instruction in geography based upon the above principles would greatly increase its efficiency.

By JAMES F. CHAMBERLAIN,
State Normal School, Los Angeles, Cal.

The greatest need in the teaching of elementary geography, is teachers prepared to present the subject. This is apparent when the training of the average teacher is considered.

With few exceptions, high school geography is physical geography. In 1909 but 19.34 per cent of the students enrolled in our public high schools were studying the subject. While this is essential as the foundation of general geography, it is not general geography. Many normal schools *offer* considerable geography, but not a normal school of which the writer has any knowledge, *requires* sufficient work in the subject to enable one to teach it satisfactorily.

To improve the teaching of geography in the elementary schools we must remove the fundamental cause of unsatisfactory teaching. This can be done by taking up geography in Reading Circles, by encouraging teachers to take courses in summer schools, by requiring more work in geog-

raphy in normal schools, by carefully testing applicants for teachers' certificates, and by appointing expert supervisors of geography in all city systems.

With better prepared teachers will come more effective teaching, more rational courses of steady, better text-books, a wealth of illustrative material, and greater interest on the part of pupils.

By GEORGE A. MIRICK,
Acting Superintendent of Indianapolis Schools

1. A modification of the geographical apparatus.

a. The globe should have an *upright* axis, not an inclined one.

b. The globe should be free of all meridian and horizon circles.

c. Small hand globes are of little use.

d. Sand tables have no place in grammar grades.

e. Dissected maps have little educational value.

2. A more discriminating use of geographical apparatus.

a. For fourth grade a large eighteen inch globe should be used for location. Wall maps should not be introduced until the correct forms, and relative positions of land and water masses are fixed by use of globe.

b. The first map to study is the Mercator projection of the world.

c. The parallels and meridians should be followed from the beginning of use of globe in determining directions. The parallels and meridians should be followed on Mercator projection map in determining directions and also, later, on maps of all other projections.

d. In the study of land and water *forms* reference should always be made to the globe or to a hemispherical map on which the mass to be studied is represented directly facing the student.

e. Pictures should be selected with a definite purpose, and should be *studied* not simply looked at. "Type pictures" should have a larger use. Moving pictures should be a part of the geographical apparatus equipment.

3. Text-books should be rewritten.

All present text-books are of one type: the type of which the encyclopedia is an example. Geography text-books differ in degree not in kind. They are all compilations of predigested material. No two books and certainly no one book intended for a three year's or a four year's course of study can in its very nature be anything but encyclopedic.

A book of reference supplemented by no less than six other books is a minimum supply of books for each pupil for a three years' course of geography study.

In the fourth and fifth grades these supplementary books should be of the nature of books of travel. In the sixth grade the social and economic

factors may be emphasized somewhat. Three years of geography as a special subject is enough for the grammar grades, but the last term of this three years should be given to a study of the world as a whole. In this study the interrelations of the people of the world, their activities, their common and diverse interests, the supremacy of progressive nations, their dependence on and superiority to the world of nature, etc., may be to a degree perceived. Such a book, inspirational as well as informing, has not yet been written.

Primary geographical instruction is on the whole in harmony with accepted educational theory. In the grammar grades the methods of instruction involve inaccuracy, and have little if any relation to accepted theories of pedagogy or psychology.

By CHARLES E. COLBY,
State Normal School, Winona, Minn.

The greatest need in the teaching of elementary geography is teachers who have had thorough preparation in the subject. Trained teachers would bring the modern point of view, the enthusiasm for field work, the necessary facts of the subject, and above all, a knowledge of how to teach the child to observe, to think, and to reason.

The report of the Superintendent of Public Instruction in Minnesota for 1910 shows that, of the 15,157 public school teachers in this state, less than one half of them were high school graduates and that not one fourth of the total had completed a course of a year or more in a normal school or college. It is, therefore, evident that a very large per cent of the geography teaching in this state is done by teachers who have never had any work in that subject beyond that of a rural or graded school. However, is it not true that, although the training in geography of even the best equipped grade teacher does not at all compare with the specialized preparation of the teacher of music, drawing, manual training, and domestic science, the work in geography as taught by the grade teacher is expected to conform to the same standard as that done in the special subjects?

One of the most serious offenses against successful geography teaching is a careless and slave-like following of the written text without any effort to interpret the maps, graphs, pictures, and other illustrative material in the text. Further, very few teachers make any effort to have the children connect the facts or forces which he reads about with concrete illustrations in his own vicinity. The near-by brook, the gravel pit, the quarry, the factories, the farms, and in fact all the neighborhood industries, offer abundant opportunity to convince the child that geography is the study of real things and not mere description or dry statistics inside the covers of his largest text-book.

IN MISSOURI

By O. D. VON ENGELN,
Cornell University, Ithaca, N. Y.

THE teacher of geography whose course contains many, familiar, home illustrations of the interplay of geographic factors builds on a solid foundation. Appreciation of geographic responses to environment, involving wide areas and remote lands, follows naturally enough when a class is trained to see that similiar controls are operative in the locality with which its individual members have an intimate personal acquaintance. But interesting geographic relations are often passed by unobserved because they savor of the commonplace in the region of their occurrence. What escapes the teacher seldom reaches the pupils. Therefore this article; intended to be suggestive of the character and amount of such material available for class use. The informative content of its subject matter is to be considered more with regard to its nature than as a body of fact and deduction.

It is simple enough for teachers at local centers of geographic interest such as New York City or Niagara Falls to introduce much home geography into their courses. But where the home geography is obscure, in localities perhaps devoid of imposing natural features, the difficulties are greater. What follows, therefore, is an attempt to make the most of material available in an everyday sort of place.

The area here considered is in and adjacent to Boone County in central Missouri. No large cities occur within the county: the manifold industrial, commercial or governmental activities which call such into being are absent. Rather, its inhabitants comprise a unit agricultural community. The town of Columbia, central to the area, serves at once as a trading center, the county seat, and the home of the University of Missouri; and to the presence of the University the town owes its present importance and growth in population.

Among the University buildings is Academic Hall, capped by a dome 182 feet high. An expression coined by the students: "You can't get away from the dome" furnishes a keynote to the topography of the region. From any clear space on the slightly rolling, interstream areas within visual range of the University, this dome can be clearly seen; and conversely, the skyline, from the dome, presents an unbroken, horizontal line. Between these nearly level uplands are deep, often steep walled, yet rather wide gorges with flat bottoms. This topography may be accounted for in outline as follows:

The region about Columbia is underlain by massive, nearly horizontally bedded limestones, overlain by a mantle of residual soil with a slight

admixture of glacial drift (Structure). Long continued weathering and stream erosion in an earlier geographic cycle had carved the surface of the whole area to a low relief, the late-mature topography of which is still preserved in the undulating divide areas. In a regional uplift which followed, the nearly peneplained area attained an elevation of some 800 feet above the sea (Process). This upland plain, inheriting from the previous cycle a topography of late-maturity, has since been much dissected and trenched, especially in the southern part of the county where streams tributary to the Missouri River have been eating back into the upland by headwater erosion. In this section of the area only comparatively narrow remnants of the old upland persist. The region to the north of Columbia, farther away from the local base level established by the Missouri, has been much less notably affected by the post-uplift dissection. The upland divide areas are much wider there and the smaller valleys draining them have as yet only slightly, if at all, been modified by the rejuvenating effect of the uplift (Stage).

The interpretation of the general physiography of a region, as outlined above, is essential before its particular phenomena can be studied with profit. Some field knowledge of physical geography is required to make an original interpretation of this nature. But practically every part of the United States has been more or less completely studied and described by competent investigators, and their papers make the more general facts accessible to all.

Where have such papers about any given locality been published and how may they be obtained? In the writer's experience these questions present the greatest stumbling block to progress on the part of geography teachers. The United States Geological Survey publishers, annually, a bibliography of all articles and books relating to North American Geology which have appeared in that year. These are published as Bulletins of the Survey. Out of print numbers of such Bulletins are probably to be found in every public library, those still available may be had on application to the Director of the Survey at Washington, D. C., free of charge. The Library of Congress at Washington, and other large libraries, by co-operative service with local libraries make almost any publication available anywhere. Thus every teacher may be in touch with published geographic data relating to the home region.

To revert to the area under consideration. Its general topographic features, as described, are illustrated by the Jefferson City and the Moberly, Missouri, topographic sheets of the United States Geological Survey. These, with photographs of a typical late-mature valley in the upland and of massive, horizontally bedded limestone will serve to illustrate similar feature everywhere. Knowledge of the character of the bed rock and of the physiographic history of the region leads to an appreciation of many qualities of the soil, on which latter the culture of this agricultural com-

munity is very directly dependent. As it is residual soil from limestone, it represents the accumulated insoluble impurities from the general mass of calcium carbonate comprising the bulk of the rock. These impurities consist mostly of minute clay particles; hence the heavy clay soils typical of the area. On the more dissected uplands, where the top soil is thin because the fine clay particles are rapidly washed away, a deep subsoil layer of closely packed chert fragments occurs and the bedrock is relatively near the surface. As the chert nodules occur only sparsely in the original limestone, long continued weathering must have wasted a considerable vertical depth of rock to result in so thick a surface accumulation of cherts.

In fact, the history of long continued weathering of limestone is written large, geographically, over the whole area. Along the steeper valley sides it appears in the development of detached outliers, called Balanced Rocks, where closely spaced joint planes permitted of and directed more rapid localized decomposition. In the southern part of the county sink holes dot the upland surface, and the minor drainage courses are all underground, sometimes in caves large enough to admit of exploration for several miles. Where filled with water, because of slow percolation, the farmers often use the sink holes for watering ponds. Familiarity with this phenomenon, and knowledge of the impervious nature of the residual clay soil have led to the extension of an adaptation of this convenience to other sections of the area. The smaller wet-weather-stream valleys of the uplands, broad in cross-section, are commonly dammed completely across near their head-waters, and the drainage of the slopes conserved in the ponds so formed. Such a practise is, moreover, necessitated by the fact that the dense, residual-clay soil, lacking in water carrying strata, affords scant supply to wells. For the same reason drinking water at the farm houses is most often rain-water from the house roof, collected in cement cisterns.

The roads of this section are a further expression of the geographical control exercised by long continued weathering of limestone. In winter most of them are so deep with sticky mud that travel is impossible; in summer their roughness suffices to dampen the ardor of the automobile tourist. The only cheap road material available for their improvement is the scant supply of chert-gravel collected by steam-sorting in the larger valley bottoms.

Quartzose material makes a notoriously poor road surface, and these chert fragments have the added disadvantage of possessing knife edges sharp enough to cut rubber tires, yet a gravel road of this description is so distinctive an acquisition to transportation facilities of this region as to be referred to idiomatically as the "Ashland Gravel" or the "Fulton Gravel" verbally, and in the local newsprint. The comparatively high first cost of such highways is indicated by the fact that they are usually toll roads.

While their present and past is bound up in the nature of the weathering residual material, these Missouri roads have the promise of a happy future from the abundant supply of limestone bedrock, splendid for macadam, and almost everywhere available close at hand. In towns of the size of Columbia the clays furnish material for the vitrified brick with which the main streets are almost all paved. However, the quaint stepping-stones, still in use at the intersections of side streets, are interesting relics of earlier days, and testify eloquently of the times when cowhide boots had, of necessity, a greater vogue than now. These stepping stones are limestone slabs set upright, placed for the convenience and protection of the foot passenger from the sticky mud and miry lakes of the primitive streets, and were especially needful in winter.

Possibly the fame of the Missouri mules is partly a response to the condition of deep, sticky mud-roads, and partly to climatic relations. At any rate these factors have fostered his development and contribute to his present usefulness. They say in Missouri that a mule's hoof can be withdrawn from mud more easily than that of a horse. Certainly the mule has more of the dynamic energy required to get a heavy load out of a mudhole. The Missourians credit their mules with ability to do twice the work of a horse on half as much feed; a good span of mules, consequently, commands a high price and indeed some fine specimens may be seen.

The climatic factor involved is the summer heat. Between June 1 and July 4, 1911, the Weather Bureau instruments at Columbia several times recorded 104°F. During this whole period the daily maximum was over 90°F.; with not a few days ranging near and above 100°F. Working horses dropped dead in numbers, incapable of withstanding such temperatures, but the mules were apparently unaffected. They were even pressed into service as cab horses.

These high temperatures, with accompanying drouth, are typical climatic conditions of continental interiors. At Columbia the humidity was often high; one perspired copiously, and this perspiration stood on the skin without evaporating; yet one was possessed by a painful desire to see the ground thoroughly soaked, irrespective of possible temperature changes brought by the rain. Perhaps the suggestion for this longing came from the soil itself; for the hillslopes were checkered with wide, gaping sun-cracks. These afforded most favorable conditions for the phenomenon of soil creep, to whose ordinarily slow and imperceptible operation, valleys owe their widening after the late-mature stage of development has been reached. Wetting by a heavy rain would expand the dried up earth blocks, but the pull of gravity would cause the cracks to be successively closed toward the lower levels. Another interesting effect due to the continued high temperatures was the bowing up of the cement sidewalks. The progressive expansion of a long reach of contiguous blocks ordinarily culminated in a fracture and uplift at the weakest point. This effect serves as

a simple illustration of two physical geography phenomena, ordinarily difficult to teach; rock disintegration by differential expansion of minerals under insolation, and the effect of compressional stresses in mountain uplift.

The effect of the uniformity of soil conditions as a determinant of the character of agriculture in this section, the retarding influence of wide acres of field crops on town growth and on the development of local trolley transportation, furnish further home geography relations similar to those treated above. Nor is the list exhausted by the inclusion of these. But what has been written will suffice to show that "pithy" illustrations of geographic controls abound in the common places of one's home surroundings. In each case there is, perhaps, some one basic geographic control, as here the effect of long continued weathering of limestone, which, although its influences are far-reaching, may remain obscure until some of its responses are traced to their sources. And the zest of the search itself adds to the value of the find, by lending enthusiasm to its later use in the school room.

INTERESTING ISLANDS OF THE SEA—NEW ZEALAND*

SET far out in the Pacific Ocean, more than a thousand miles from the nearest Australian port, are the islands of New Zealand, at once among the most delightful and the most interesting in the world. Lying between 34° and 48°S. latitude they would, if superimposed upon the west coast of the United States, extend from Los Angeles, Cal. to Puget Sound, a distance of a little over 1,000 miles. The total area of the Dominion of New Zealand is 104,751 square miles, somewhat greater than that of Great Britain but not so great as that of Great Britain and Ireland together. Its nearest equivalent in area among the United States is Colorado. Notwithstanding this rather large area, the land is so arranged that no part is as much as 100 miles, and by far the greater part not over 50 miles, from the ocean. The population of the islands (1,029,417 in 1909) is somewhat greater than that of Colorado, more nearly approaching that of Connecticut. The population density is roughly 10 per square mile.

Composed of a group of islands, two of them called respectively North and South Islands, are of such preponderating size as to comprise 103,000 of the 104,751 square miles of area. These two islands differ somewhat in topography and general characteristics. North Island, though prevailingly hilly, contains the largest area of plains in the Dominion. Two parallel ridges of mountains, reaching 4000 feet in height, occupy about one-tenth of the surface, and in addition to these there are three volcanic mountains of considerable importance. The characteristic thing about North Island is the abundant evidence of volcanic

*Data from the New Zealand Official Year-Book, 1910.

activity. In South Island the mountains are much higher than those of North Island, ranging up to 10,000 or 12,000 feet. Due to heavy precipitation the snow line of South Island is very low and there are extensive glaciers on either side of these mountains, and they are said to rival in beauty the snow capped peaks of Switzerland. The characteristic thing about South Island is its glaciation. The ice must formerly have been very much more extensive, for about 100 miles of the southwestern coast is very markedly fiorded. The principal plain of the island is that of Canterbury, on the east side.

The climate of these islands is the New Zealander's boast, and perhaps rightly, for they have the lowest death-rate of any country in the world. The conditions which govern the climate are,—location chiefly within the belt of prevailing westerly winds, the continuous stream of cyclonic storm areas which approach from the northwest, isolation in a great expanse of ocean, and the topography of the islands. The result of these combined conditions is a climate without extremes of temperature, with constant breezes, and a plentiful rainfall. Like other west coast situations, the chief rain is in the winter, and due to local topography is considerably heavier on the west side of the mountains. The lowest yearly mean is on the east side of South Island, 35 inches, and the highest on the west side of the same island, 162 inches. Unlike Australia, periods of protracted drought are almost unknown in New Zealand. The highest recorded temperature is 99°F. in North Island, and the lowest 19.2°F. in South Island. The average January mean differs form the average July mean by only about 15°F.

The soils of the Dominion are variable. In the North Island some of the best soils, and also some of the poorest, are of volcanic origin.

New Zealand is not yet a manufacturing nation. Agriculture predominates and the pastoral phase holds first place. The sheep industry is by far the most important. They thrive in all parts of the region, and with beef cattle, furnish the basis of the frozen meat trade with Europe. Previous to the introduction of the freezing system the profit from the animals was secured solely from the wool, hides and tallow, those alone being capable of transportation.

The pastoral industries are being somewhat encroached upon by the increase of the area devoted to the cultivation of crops. Among the cereals, wheat takes first place. The chief wheat area is the Canterbury Plain on the east side of South Island, the rainfall being somewhat less heavy there because of the high mountains immediately to the windward. It is interesting to note the similarity of this location to that of the chief wheat region of England in the eastern lowlands. The main disadvantages to wheat culture in the Canterbury Plain are the occasional occurrence of cold winds and heavy rainfall in the early summer, materially decreasing the yield. In this region, however, the flatness of the land

and the absence of stones from the soil permit the use of steam machinery and the other adjuncts of large scale wheat farming as seen in the American northwest. Oats in New Zealand are the chief crop in the higher, colder, wetter, southern counties of South Island; as in Great Britain they form the chief crop of Scotland. Corn is not a popular cereal and, though it is grown to some extent and does well in North Island, the crop is not great, and this fact has its effect in the comparatively small place which swine hold in the rural economy of the islands. The dairy industry prospers in both islands, due to the mild, even climate and abundant pasturage. In 1909 butter and cheese held third place in the list of exports from the Dominion; wool and frozen meat being first and second respectively.

The mineral wealth of New Zealand has considerable variety but is not great in quantity. In 1878 the islanders were importing about as much coal as they mined at home, and though the imports have increased, the home production has grown so much more rapidly that it is now about eight times greater than the import. The total production, however, is under 2,000,000 tons. There is also iron ore in the islands but it is mainly of relatively low grade and is little worked as yet. Gold is also found in both islands but chiefly the southern. There is some export of gold but in comparison with that of Australia or North America it is small.

V. C. FINCH.

NEWS NOTES

THE TRANSCONTINENTAL EXCURSION OF THE AMERICAN GEOGRAPHICAL SOCIETY.

THE American Geographical Society of New York will celebrate the sixtieth anniversary of its foundation by a transcontinental excursion under the direction of Professor W. M. Davis. The excursion will start from New York City about August 15 of the coming summer for a two months' trip on a special train, including sleeping cars, a dining car, and an observation car.

The leading European geographical societies will each send one or more delegates, who will be the guests of the American Geographical Society. The Americans invited to be members of the excursion, will act as guides for the foreign visitors, and will represent various phases of geographical science in this country.

The provisional route announced will take the party to such places as the Hudson River, Niagara, the abandoned shorelines of the Great Lakes, the Baraboo region of Wisconsin, the upper Mississippi River and Lake Pepin, the Lake Superior iron district, Lake Agassiz, the Bad Lands, the

Great Plains, Yellowstone Park, the northern Rockies, the lava plains of Washington, the Cascades, and Puget Sound. On the return trip various parts of the Cordilleran region will be visited, including such places as the Yosemite Valley, the Great Basin, the southern Rockies, the Grand Canyon of the Colorado, the lower Mississippi, and various points in the Atlantic coastal plain and Appalachian highland. Two days will be given to meetings in New York at the close of the excursion.

L. M.

A state geographical society has been founded in Wisconsin. Professor J. A. Merrill of Superior was elected president and Miss Bertha Henderson of Whitewater, secretary-treasurer. One feature of the plan is the formation of local societies in all places where a group of interested persons can be brought together.

At the meeting of the Northeastern section of the Minnesota Educational Association in Duluth, March 16, a Geography Round Table was held, under the leadership of Professor Eugene Van Cleef of the Duluth Normal School. Papers on the *Use of Equipment* were read by Miss Jessie Hawkins, Mr. Philip Schweickhard and Miss Adella Thorhill. The points for discussion at the Round Table were:

1. Should wall maps be used whenever possible or only occasionally?
2. When a student discusses a subject which invites the use of a wall map, should the teacher point out localities or should the student use the map himself?
3. Is the drawing of memory maps worth the student's time?
4. Should accurate outline maps showing considerable detail, or merely rough sketches, be drawn?
5. To what extent should relief maps or models be used?
6. Can photographs be used effectively?
7. Of what value are stereoscopic views?
8. Can the stereopticon be made an instrument for instruction rather than mere entertainment?
9. Of what value is the collection of materials such as minerals, cereals, manufactured products, etc.?
10. Is the organization of a museum of illustrative materials worth while?
11. How much time should a student spend on the mounting of materials?
12. If reference books should be used what kind should they be?
13. Can modeling sand be used advantageously?
14. What means has the rural school teacher for collecting illustrative material?
15. Should field trips be limited in number?

Miss Louise W. Mears, teacher of Geography in the Peru, Nebraska, State Normal School has recently written a book on *The Hills of Peru.*

Professor William T. Skilling and Miss Alice Greer of the department of Geography of the San Diego, Cal., State Normal School have just published *a Teachers' Manual of Geography* for use in the schools of California. The Manual consists of about 100 pages, and is an unusually valuable handbook. One practical feature is the extensive list of geographical topics, grouped by countries, each followed by page citations to reference books.

After long years of most efficient service, Supt. Randall Spaulding of Montclair, N. J., retires from active school work. Supt. Spaulding has been an enthusiastic advocate of field work in elementary geography. Not only were the teachers of Montclair encouraged to take classes on field trips, but the Superintendent himself conducted many such trips with his teachers as pupils.

In addition to the usual summer courses in geography, the University of Wisconsin will offer a special field course in geography and geology for four weeks during August, immediately following the regular summer term. The course will be under the direction of R. H. Whitbeck.

In educational circles in Wisconsin, geography is receiving considerable attention. At the annual convention of City Superintendents, nearly a whole day was devoted to the subject of geography teaching in the grades. A new tentative course of study for the state is being tried. At the Rock County Association, the intermediate section and a portion of the general session were given over to geography. At the meeting of the Southern Wisconsin Association, geography was one of the subjects discussed, Professor C. M. Sanford of the Platteville Normal School presenting the leading paper.

The first high school geography of the new type to appear is Professor Charles R. Dryer's *High School Geography,* just from the press of the American Book Company. It is a combination Physical-Economic geography following, in general, lines which have been recommended by national committees and individual geographers. To be reviewed later.

RECENT PUBLICATIONS

FOREST PHYSIOGRAPHY. By Isaiah Bowman, 8vo. xxii+759 pages. 292 figures and 6 plates, including a new Geologic Map of North America. John Wiley & Sons, New York. 1911, Cloth, $5.00 net.

This book is intended to provide a course in physiography particularly adapted to students of forestry. Its use should be very much more extended than this because of its interest to the physiographer and because

much of the material is fundamental to any consideration of the relation of geography to the agriculture of the country. The plan of the book includes (1) a detailed discussion of the physical and chemical features and the general characteristics of soils with, however, no attempt to show specifically their relation to agriculture; and (2) a discussion of the physiographic provinces of the United States, beginning with the Pacific Coast. For the benefit of the forester the highlands of the country receive special consideration, as do also those parts of the lowlands which are specially adapted to forestry, such as the Atlantic and Gulf Coastal Plains. In these discussions the topography of the sub-divisions of the provinces is taken up and some attention is given to the characteristics of drainage, soil, and climate.

The importance of this book to the geographer lies not mainly in the information regarding forestry, suggested by the title, but in the fact that it supplies the long-felt need of a thorough and well-organized treatise on the physiography of the United States in its relation to geologic history and processes. The book is of exceptional merit. V. C. F.

WORLD GEOGRAPHY. By R. S. Tarr and F. M. McMurry. A one-volume edition of the *New Geographies* by the same authors. xiv+536 pp. 690 illustrations. The Macmillan Co., New York, 1912. $1.25.

By judicious omissions the authors have reduced the two volumes of their *New Geographies,* which appeared two years ago, to a single volume only one hundred pages longer than the Second Book of the earlier edition.

No one can carefully examine either the two-volume or the one-volume edition without being impressed with the masterly way in which the authors have organized a vast amount of material. The ordinary *text* book of geography is so brief and condensed that it can scarcely be interesting. The Geographical Readers seek to supplement the meager facts of the text book, but there are practical reasons why geographical readers are used to a limited extent. If it is possible to combine the desirable features of text book and geographical reader in a single book, Tarr and McMurry have done it and have done it admirably. The new book is full of human interest. Home Geography is emphasized, man's relation to his environment is constantly brought out, type studies are introduced, physiography is discussed only as "it functions in man's relation to the earth;" reviews, comparisons and cross references abound; the difficult points in mathematical geography are postponed until as late in the study as is practicable; illustrations and diagrams of real teaching value are on every page. Some may consider that the book is unduly large. Not at all: it is relatively large because it includes many details, but they are just the kind of details that put flesh and blood upon the dry skeleton that the condensed type of

text book necessarily must be. We can not have a satisfactory school book in geography unless we are willing to have it contain a considerable amount of interesting matter, and that means a fairly large book. R. H. W.

RALPH STOCKMAN TARR

ON Thursday, March 21, Professor Ralph Stockman Tarr of Cornell University died at his home in Ithaca, N. Y. The press reports state that death resulted from hemorrhage of the brain. This sudden death of one of the best known American geographers came as a shock to hundreds of those who esteemed him as a teacher and who knew him as a friend.

Professor Tarr was in the prime of life and had been in excellent health. He was 48 years of age, a New Englander and a Harvard graduate; he had been at Cornell for 20 years.

No name in the field of geography is so widely known to the teachers in elementary and secondary schools as that of R. S. Tarr. Since his Elementary Physical Geography appeared in 1895 and set a new standard in its field, he has produced a long series of exceptionally successful text books.

His scientific work has been largely directed to the study of glaciers in Greenland, Alaska, and the Alps and to the study of glacial work in New England, New York, Scandanavia, and other parts of Europe and North America. He has done much in shaping and directing the development of the modern science of geography in the United States, and it is hard to realize that his work is already ended though not finished.

Prof. Tarr was one of the founders of the Association of American Geographers and presided at its last meeting, held in Washington in December. He was also a member of various other American and foreign scientific societies. He was connected with this magazine as an associate editor from its beginning. Probably the last article which came from his pen was the one on the Physiography of New York in our March issue.

All who have come into close personal touch with Professor Tarr know that he was a man of rare qualities; an indefatigable worker, a staunch friend, a delightful companion, an inspiring teacher in the lecture room and in the field.

Both editors of the Journal of Geography were pupils of Professor Tarr's. To him they have formed the habit of turning for counsel. To them he was a professional father, and few of all who knew him will more keenly feel his loss or cherish with deeper gratitude his memory.

SAMPLE SETS OF EXAMINATION QUESTIONS (Third Grade)

Compiled by a committee of teacners and given in the schools of Trenton, N. J.

The teacher may select any eight or more of these for her class.

1. What is the home for? What is the difference between our homes, and the homes built long ago?
2. What is the difference between a city and a village? Why do most people live in cities?
3. What is direction? Of what use is the compass?
4. Why are streets paved? Locate a paved street near your school.
5. How does a valley differ from a plain? Where are the most farms, in a valley or on the mountains?
6. What natural body of water drains Trenton? What kind of work does water do?
7. What is a canal? Of what use is it?
8. What is a good soil maker? What occupation depends upon soil?
9. How are things sent into this city and how are they sent away? Name five things that are sent away.
10. If a farmer raises more truck than he needs, what does he do with it? What help does the farmer get from nature?
11. What is commerce? Why are there more railroads in the city than in the country?
12. What do you mean by weather? Describe the weather today.
13. What body of men help the Mayor make the laws for the city of Trenton? In what building does this body of men meet?
14. Why are people taxed? How is this money used?
15. Give the location and use of these buildings—City Hall, State House, and Post Office. Locate Cadwalader Park.
16. Name five industries of Trenton. Which is the most important?

FOURTH GRADE—June, 1910. *Select ten.*

1. a. Locate the cotton belt.
   b. What conditions are necessary for the growth of cotton?
2. a. Name a cotton shipping port.
   b. Name a cotton manufacturing city.
3. a. Where are the great wheat farms of North America?
   b. Name a flour milling city of North America.
4. Over what route would a flour laden vessel travel, leaving Duluth for Europe?
5. Write a short paragraph about life on a ranch or in a lumber camp.
6. a. What plant does the sugar cane resemble?
   b. Name some products of sugar cane.
7. a. Where is the cattle raising section of North America?

b. Name the most important meat packing city of North America.

8. a. Name some dairy products.
   b. Tell the chief product from the sheep.
9. a. Tell how logs are sent from the lumber camps to the saw mills.
   b. Tell some things made from lumber.
10. a. What city in Pennsylvania is noted for the manufacturing of iron and steel goods?
    b. Which state produces the most coal?
11. a. In what part of North America are gold and silver mined?
    b. What is the most important of these metals?
12. a. For what is the Columbia River noted?
    b. Where are the most valuable oyster beds?
13. a. Where are the cod, mackerel, and herring fisheries?
    b. Name an important fish market.
14. a. On account of its agricultural productions what is New Jersey sometimes called?
    b. Name three manufacturing cities of New Jersey and tell for what each is noted.
15. Name some important waterways of New Jersey.

FIFTH GRADE—June, 1911. *Answer ten questions.*

1. In which countries of Europe is manufacturing most extensively carried on? Mention one manufactured product of each country.
2. In which direction is Europe from North America? Compare Europe in size with the other continents.
3. Name and locate the longest river of Europe; a river noted for its beautiful scenery.
4. Write about the Alps, telling where they are and for what they are noted.
5. For what is Lyons noted? Belfast? Manchester? Geneva?
6. How could you go from your home to the largest city in Europe?
7. What kind of government has The United Kingdom of Great Britain and Ireland? What event is being celebrated there now?
8. What conditions are necessary for successful wheat growing? In which European countries are the wheat producing areas?
9. Where does Great Britain get the wool for the manufacture of woolen goods? Cotton for the manufacture of cotton goods? Steel for the manufacture of cutlery?
10. Locate five of these ports and name an export from each: Liverpool, Marseilles, Hamburg, Cardiff, Malaga, Amsterdam.
11. Locate "The Hague" and tell why people are now especially interested in this city.
12. What do Great Britain, France and Germany buy in large quantities from the United States?

13. Where is Mount Vesuvius? Mount Etna? What are they?
14. Tell why Europe has a large internal commerce. By what means are the goods transported from one country to another?
15. Locate the Iberian Peninsula and tell what countries form it. The Scandanavian Peninsula.
16. Why is the manufacture of cotton extensively carried on in Great Britain?
17. What countries of Europe would you visit to enjoy the beautiful scenery?
18. What city is noted for its linen mills? For steel ship-building? As the chief fur market of the world? As the greatest ivory market in the world? As the home of the Pope?
19. Write about olives. Tell where they are grown; how they are grown; the harvesting of the crops; the preparation for market; to what places they are sent.
20. From which country is coal exported? Sugar? Cheese? Grapes? Raw silk?

CIRCULAR COUNTIES IN TENNESSEE

On glancing at a map of Tennessee on which counties are shown in color, attention is arrested by the appearance of Warren and Overton Counties, whose boundaries are circular. These unusual border lines are the result of a provision in the constitution of Tennessee adopted in 1870.

The constitution of 1796 prohibited the formation of new counties with less than 625 square miles, or the reduction of old counties to a less content. The constitution of 1834 allowed the formation of new counties of not less than 350 square miles, and 450 qualified voters, but prohibited the reduction of an old county to less than 625 square miles, or the approach of the line of a new county nearer than twelve miles from the court house of any old county. (Garrett and Goodpasture, *History of Tennessee,* p. 330.)

The history of the development of the Overton County line is as follows: This county was established in 1816 with a large area, somewhat indefinitely outlined. Fentress County was cut off by a straight line in 1823. In 1837 Cumberland County, and in 1842 Putnam County, were maked off from Overton. By an act of 1870, Clay County was established, in order to reduce Overton to the limits prescribed by the constitution. In 1873 the same procedure was followed in separating Putnam from Overton. The circular boundary was completed by the organization of Pickett County in 1879. This appears to be an illustration of vested interests and it is not at all surprising that the mother county should yield the smallest amount of territory consistent with the constitutional provisions, in spite of the obvious inconvenience of this type of boundary line.

H. E. GREGORY.